a1 cont'd

10/003,305, filed on December 6, 2001, and U.S. Serial No. 10/003,530, filed on December 6, 2001.

Pages 16 and 17, the paragraph bridging these pages from page 16, line 22 to page 17, line 19, replace the paragraph with:

a2

Convergent light 51 is then irradiated through the objective lens 15 to the target polynucleotide hybridization area 142 where the target polynucleotide 42' is hybridized to the probe 42; the photoabsorbing layer 21 in the area 142 absorbs the convergent light 51 and evolves heat. The heat from the photoabsorbing layer 21 in the area 142 allows the vicinity of the area 142 to increase its temperature up to about 95°C, and hence hydrogen bonds between the probe 42 and the target polynucleotide 42' are dissociated to denature the target polynucleotide 42' along which has been hybridized to the area 142. When the size of an area where the convergent light is converged is smaller than that of a unit target polynucleotide hybridization area, the light axis should be adjusted to ensure that the convergent area is within the target polynucleotide hybridization area. When a unit target polynucleotide hybridization area has a smaller size than the convergent area of the convergent light, individual areas should preferably be arranged in such a manner that gaps between individual target polynucleotide hybridization area

92 Cont'd

are sufficient and only one area is to be heated by the convergent light. In FIG. 3, only one probe is shown in each target polynucleotide hybridization area to be easy to read, but in practice, a plurality of probes having an identical base sequence are generally immobilized to each area.

Pages 18 and 19, the paragraph bridging these pages from page 18, line 14 to page 19, line 2, replace the paragraph with:

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FIG. 4 illustrates a second means for heating a specific area on the substrate 1. The photoabsorbable thin layer 21 is formed on the target polynucleotide hybridization areas in the embodiment of FIG. 3, whereas, in the present embodiment, particles 23 each having photoabsorbing characteristics and have sufficiently small sizes in comparison with those of the target polynucleotide hybridization areas are dispersed and placed on the target polynucleotide hybridization areas. At least one particle should be placed on each area. According to the present embodiment, heat insulating layers 22 is separately provided in each of individual areas and the particles 23 are placed onto the upper surface of the insulating layer 22. The substrate 1 comprises substrate base 13 composed of electrically conductive film 131 and thermally conductive insulating substrate 132 as well as in the embodiment illustrated in FIG. 3.